AIR SCREEN REFRIGERATOR
MODEL PHB495
OWNER / OPERATOR'S MANUAL

CARTER-HOFFMANN®

MANUFACTURED BY:

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PHB495

CAUTION: EQUIPMENT ELECTRICAL DAMAGE

DO NOT plug in or use this appliance until all *Installation Instructions* are read and followed. Damage to the appliance may occur if these instructions are not followed.

This manual is considered to be a permanent part of this appliance.

This manual must remain with the appliance if it is sold or moved to another location.

GENERAL INFORMATION

- This appliance is intended for use in commercial establishments, where all operators are familiar with the appliance use, limitations and associated hazards.
- Operating instructions and warnings must be read and understood by all operators and users.
- This appliance is intended for use to holding precooked foods for human consumption. No other use is recommended or authorized by the manufacturer or its agents.
- Cleanliness of this appliance is essential to good sanitation. Read and follow all included cleaning instructions and schedules to ensure the safety of the food product.
- All included trouble shooting guides, component views and parts lists are included for general reference, and are intended for use by qualified service personnel.
- Knowledge of proper installation, operation and maintenance procedures is essential to ensure the safe operation of this oven.

SERVICE / SAFETY

- Always have dry hands prior to using the piece of equipment.
- Turn OFF the unit (not all units have power switches) anytime the cabinet is not in use.
- If an electrical shock is felt when touching the cabinet, disconnect the power immediately and call Carter-Hoffmann Technical Service for assistance.
- If the power cord is frayed or the plug damaged, DO NOT plug into the electrical power receptacle. If it is already plugged in, turn off the main circuit breaker, usually located in the building's breaker box, then disconnect the plug.
- Disconnect the power cord before attempting any repairs to the cabinet.
- Repairs to this unit must be by qualified personnel.
- DO NOT SPRAY WITH WATER OR CLEANING SOLUTIONS, or submerge the appliance. Components and wiring present a high shock hazard when wet.
- Disconnect power when cleaning cabinet.
- Both the interior and exterior surfaces of this appliance can be hot to the touch and may cause burns.

Part Number: 18400-3028C **Printed in the United States of America** **060612KBA**

UNPACKING AND INSTALLATION

CAUTION: Electric Shock Hazard
All servicing requiring access to non-insulated components must be performed by qualified service personnel. Do not open any access panels which require the use of tools. Failure to heed this warning can result in electrical shock. Disconnect this appliance from electrical power before performing any maintenance or servicing.

WARNING: Injury Hazard
All installation procedures must be performed by qualified personnel with full knowledge of all applicable electrical codes. Failure could result in property damage and personal injury.

WARNING Electric Shock Hazard
Appliance must be plugged into a properly grounded receptacle to prevent possible shock hazard. Electrical shock will cause death or serious Injury.

WARNING:
Risk of personal injury

Installation procedures must be performed by a qualified technician with full knowledge of all applicable electrical codes. Failure can result in personal injury and property damage.

CAUTION:
Electrical Shock Hazard

The ground prong of the power cord is part of a system designed to protect you from electric shock in the event of internal damage. DO NOT cut off the large round ground prong or twist a blade to fit an existing receptacle.

IMPORTANT:

Power cord is 10' long. If necessary, contact a licensed electrician to install an appropriate 15 amp electrical circuit with NEMA 5-15R receptacle. DO NOT use an extension cord.

IMPORTANT:

Damage to unit due to being connected to the wrong voltage or phase is **NOT** covered by warranty.

Unpack the cart and any accessories includeed. Ensure that all packing materials and protective plastic has been removed from the unit. Inspect all components for completeness and condition.

NOTE: DO NOT discard the carton or other packing materials until you have inspected the appliance for hidden damage and tested it for proper operation. Refer to *SHIPPING DAMAGE CLAIM PROCEDURE* on PAGE 7 of this manual.

Appliance should be thoroughly cleaned before use. See CLEANING INSTRUCTIONS, page 3.

Plug the cabinet into a properly grounded NEMA 5-15R electrical receptacle. **DO NOT MODIFY CORD PLUG.**

Electrical Information
NEMA Plug Type

120 volts
60 Hz
Single Phase
12 running amps

Before using, familiarize yourself with the heater controls. Read entire manual before operating this cart.

GROUNDING INSTRUCTIONS

This appliance is equipped with a cord having a grounding wire with a grounding plug which must be plugged into an outlet that is properly installed and grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electrical current.

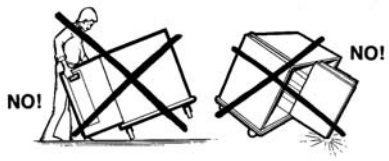
WARNING-Improper use of the grounding can result in a risk of electric shock. Consult a qualified electrician or service agent if the grounding instructions are not completely understood, or if doubt exists as to whether the appliance is properly grounded.

CLEANING

WARNING: ELECTRIC SHOCK HAZARD
Unplug the unit from electric power before performing cleaning or maintenance.

WARNING: ELECTRIC SHOCK HAZARD
DO NOT spray or splash water on the control panel or wiring.

CAUTION: CART DAMAGE
Do not tip cart onto the doors to drain excess water. Permanent damage to the doors and hinges will result. Use a clean dry cloth to mop any excess water inside cabinet after cleaning.



Turn the main power switch OFF and unplug the cabinet to before cleaning. DO NOT spray or splash water on the electrical components, control panel, timer or wiring.

1. Racks or shelves are easily removed without tools for cleaning, Simply lift up and pull out. The tray racks may be hand washed or run through an automatic washer.
2. To clean stainless steel surfaces use only cleansers, detergents, degreasers, or sanitizers that are certified to be "chloride-free" and "phosphate-free," and cleansers, degreasers, or sanitizers only in the recommended concentrations. **DO NOT** exceed recommended concentrations or mixing ratios. After cleaning and sanitizing, rinse all exposed surfaces thoroughly with large amounts of clean, clear water. Wipe off any standing liquid or residue from all surfaces, corners and rear edges.
3. Vinyl trim should be washed with a chlorine-free detergent and water. Rinse thoroughly with clear water and allow to dry. Never use abrasive cleaners, waxes, car polish, or substances containing strong aromatic solvents or alcohol. Use of **direct steam / hot water** cleaning at temperatures above **190°F** may result in “bubbling” or loosening of vinyl adhesive.
4. After all parts are dry, reinstall them and then plug the cabinet back into electrical source.

IMPORTANT: Cleansers, detergents, degreasers, sanitizers or bleaching agents that contain **chlorides or phosphates will cause permanent damage** to stainless steel products. This damage appears as pits, eruptions, voids, small holes, cracks, severe discolorations or dulling of the metal finish. Water with a high chlorine content can also damage stainless steel. If unsure of your water quality, we recommend you have it tested**. THIS DAMAGE IS PERMANENT, COSTLY TO REPAIR, AND IS NOT COVERED BY WARRANTY.**

RECOMMENDED "TIPS" FOR CLEANING STAINLESS STEEL

PURPOSE	FREQUENCY	CLEANING AGENT	METHOD OF APPLICATION
Routine cleaning	Daily	Soap, ammonia, detergent and water	Swab with cloth. Rinse with clear water, wipe dry.
Smears and fingerprints	As needed	Stainless steel cleaner, similar products	Rub with cloth as directed on package. Rub in direction of grain of stainless steel. **Do not** use on vinyl trim or control panel.
Stubborn spots and stains	Daily or as needed	Any chloride-free or phosphate-free cleanser	Apply with damp sponge or cloth. Rub in direction of grain. Rinse thoroughly. **Do not** use on vinyl trim or control panel.
Hard water spots	Daily or as needed	Vinegar	Swab with cloth. Rinse with clear water, wipe dry.

DAILY OPERATION

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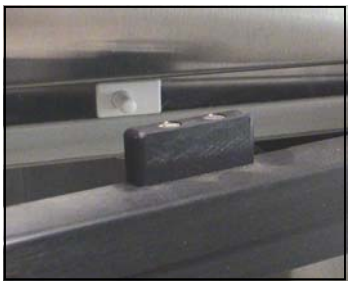


Door switch activates air screen when door is opened

The Air Screen Refrigerator is designed for use with the door open when unloading during meal or tray assembly operations lasting up to two hours. Only product that has been pre-chilled should be placed in the cabinet. Placing warm product into the cabinet will elevate the cabinet air temperature above 40°F (4°C). This will have a direct effect on optimum product serving temperatures.

Due to various conditions such as extremely high kitchen temperatures, high frequency of tray activity breaking the air curtain and excessively long operations, the door may need to be closed so the unit can recover to proper operating temperature.

1. Pre-chill empty cabinet with the door closed for approximately 40 minutes. Always keep the door closed, except when actually loading or unloading the cabinet. Do not load the cabinet until the proper operating temperature has been reached (34°-40°F).
2. **Load the cabinet from the bottom to the top.** While the side-to-side air flow of the Air Screen Refrigerator will function well when trays are partially pulled out, the best position for the trays is to be pushed all the way in during unloading. After loading, close the door and allow the inside air temperature to recover.
3. If necessary, unplug and move cabinet to serving area. Plug cabinet back in immediately upon arrival.
4. **Unload the cabinet from the top down.**
5. Close the door during slow periods to extend the effective temperature maintenance time.

   Remember: the refrigerator or freezer must be at proper temperature before the door is opened.

   The cabinet will not lower food temperatures with the door open.

The cabinet is equipped with an automatic condensate evaporator. To prevent water spills, leave the unit plugged in, with the door closed for at least 90 minutes after use.

CONTROLLER OPERATION

Manual Defrost Start Key
Press and hold for two seconds to enable defrost. NOTE: Cabinet temperature must be at 40°F or lower for manual defrost to operate. During the defrost cycle, melting snowflake will illuminate on the controller here.

Set Key
Press to display temperature set point

Snowflake symbol will illuminate here when compressor is ON

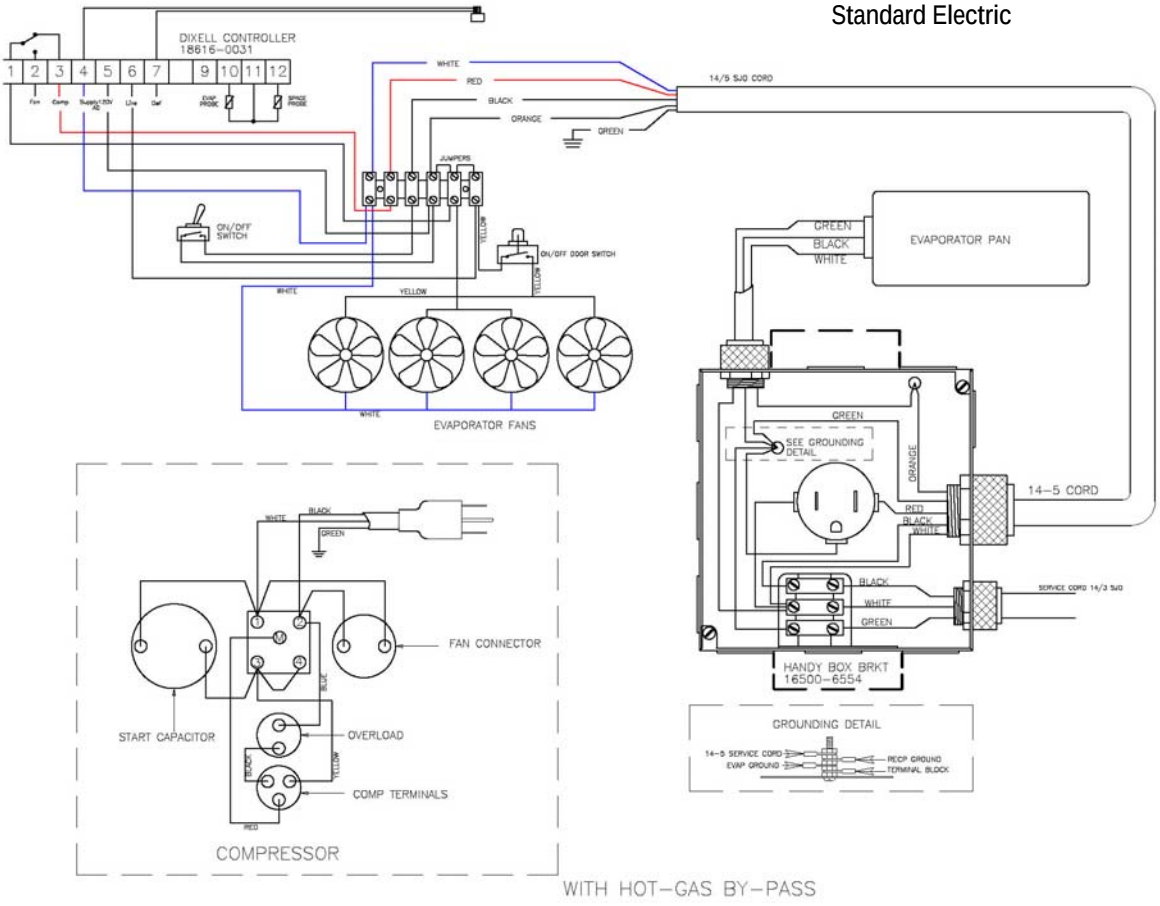
Up Arrow Key
Press to increase temperature set point (1° increments)

Down Arrow Key
Press to decrease temperature set point (1° increments)

To Lock or Unlock the Controller: Press and hold both Arrow Keys at the same time.

WIRING DIAGRAMS & PARTS LISTS

120v, 12 running amps
Standard Electric



Part Number	Description
18614-0051	Accumulator 5/8 Suct.
16002-5190	Push handle assembly
18614-0245	Blade, fan evaporator
18602-0031	Boot, toggle switch
29034-0050	Breaker strip, grey
18301-6214	Swivel caster, no brake
18301-6215	Swivel caster with brake
18614-0276	Evaporator coil, #5598
18612-5050	Condensing unit R134a 1/2 M
18614-0095	Condensate evaporator 120v
18605-0017	Cord with plug 14/3 HSJO, 5-20P
16503-2999	Evaporator cover
29038-4053	Tempered glass door
18614-0062	Filter drier C-032-S
29038-4129	Gasket for glass door
16501-6807	Front grill
18303-0080	SST Flush pull handle
16090-2525	Door hinges

Part Number	Description
18302-0050	Magnetic door latch, chrome offset
18302-0048	Magnetic door latch, locking, chrome offset
18614-0242	Evaporator motor, 120v
16502-5284	Side vent panel
18302-0054	Door strike, SST #R25
18602-0013	Push button door switch
18602-0030	Toggle switch, 30A
18616-0031	Digital controller
18616-0013	Digital controller probe
18614-0091	Expansion valve, EFJ-1/2-C 3x4 SAE 30”
16503-5504	Door hold open retainer bracket
18305-0076	Rubber door stop bumper
18141-0030	Mounting rivet for 18505-0076 bumper
16001-1621	Bottom left pan slide duct
16001-1622	Top left pan slide duct
16001-1623	Bottom right pan slide duct
16001-1624	Top right pan slide duct
18614-0028	HGBP Solenoid, 120v

GENERAL MAINTENANCE INSTRUCTIONS

DOORS

Never tip cart forward or open doors to drain water during or after washing. This can cause serious damage to the hinges, doors and latches.

CASTERS

Some casters are equipped with Zerk grease fittings so that they may be easily lubricated with a grease gun. Recommended lubrication is at least once every six months. Lubrication will be required more frequently if carts are cleaned with a hot water or steam cleaning system. Casters with special bearings are recommended for frequent cart wash or steam cleaning situations.

HINGES

Your cart doors and hinges have been factory aligned with nylon spacers to assure positive latching and smooth action. Be sure to replace these washers if the are removed when cleaning doors and hinges. If doors are removed for cleaning, we recommend that they be put back on the same cart to assure the best possible alignment and operation.

LATCHES

Check frequently to insure that all door latches are secure. Latches may become “sticky” due to residue build-up from daily use and cleaning. Lubricate latches regularly with WD-40, silicone spray, graphite or other commercial lubricants for stainless steel products. Do not use oil.

PERIMETER BUMPERS

Vinyl which has been dislodged from the channel due to severe bumping or scraping can be pried back into place with a common screwdriver.

SERVICE EXPECTATIONS

SERVICE PHILOSOPHY

For almost sixty years, Carter-Hoffmann has enjoyed a reputation for manufacturing rugged, dependable foodservice equipment that permits foodservice professionals serve more food products to more people, and thus, to grow their business.

Our goal is not only to provide the best food service equipment for the price, but also to back it up with after-sale service that is responsive fast, efficient and professional. To ensure a clear understanding of our goals, expectations, and responsibilities, we have prepared this brief document.

Carter-Hoffmann products are innovative and efficient. They are easy to use, easy to clean and easy to maintain. Although the products are quite reliable they are also designed for easy repair. We believe that a malfunction to a Carter-Hoffmann product should cause as little inconvenience to the customer as possible. Our aim is to provide "same day"/first time fix" repair service on all of our products. We are dedicated to making every aspect of our customer service the standard by which others are judged.

END-USER RESPONSIBILITIES

While we all strive to serve our mutual customers as well as possible that does not mean that the end-user (including his employees) does not share some responsibilities.

1. All shipping damage must be noted on the freight bill when the shipment is received. Any freight damages must be collected from the Freight Company, NOT Carter-Hoffmann.
2. The end-user should be advised beforehand to carefully unpack and inspect all products when they are received BEFORE SIGNING THE SHIPPER'S RECEIPT OF DELIVERY.
3. The end-user must provide a safe, dry, level surface for the equipment to be placed upon.
4. The end-user must provide the proper electrical supply. All in-wall electrical modifications are to be completed by a licensed electrician. All building modifications are the responsibility of the end-user.
5. The end-user must operate, clean and maintain the equipment in accordance with the procedures described in the Operation Manual.
6. Carter-Hoffmann is NOT responsible for any loss of the customer's income, loss of food product, extra labor charges, or any other incidental or consequential costs as a result of the malfunction of our product.
7. The end-user shall allow for on-premises repair of the equipment to be completed at a mutually convenient place and time.

WARRANTY SERVICE

1. Warranty service is to be **initiated** by authorized Carter-Hoffmann personnel only.
2. The service provider is **NOT** authorized to change or extend any of the terms or conditions of our warranty.
3. Initial freight damage is **NOT** covered by the product warranty.

CONFIDENTIALITY

1. The end user and all his employees and sub-agents shall protect and keep confidential Carter-Hoffmann's proprietary designs, information, and knowledge.
2. All literature and informational materials provided by Carter-Hoffmann are to be considered confidential; they remain Carter-Hoffmann's property; and are not to be reproduced without our prior written consent.

SHIPPING DAMAGE CLAIM PROCEDURE

NOTE: For your protection, please note that equipment in this shipment was carefully inspected and packaged by skilled personnel before leaving the factory. Upon acceptance of this shipment, the transportation company assumes full responsibility for its safe delivery.

IF SHIPMENT ARRIVES DAMAGED:

1. **VISIBLE LOSS OR DAMAGE:** Be certain that any visible loss or damage is noted on the freight bill or express receipt, and that the note of loss or damage is signed by the delivery person.
2. **FILE CLAIM FOR DAMAGE IMMEDIATELY:** Regardless of the extent of the damage.
3. **CONCEALED LOSS OR DAMAGE:** if damage is unnoticed until the merchandise is unpacked, notify the transportation company or carrier immediately, and file "CONCEALED DAMAGE" claim with them. This should be done within ten (10) days from the date the delivery was made to you. **Be sure to retain the container for inspection**.
4. Carter-Hoffmann cannot assume liability for damage or loss incurred in transit. We will, however, at your request, supply you with the necessary documents to support your claim.

CARTER-HOFFMANN WARRANTY

Carter-Hoffmann warrants to the initial purchaser of its standard Carter Line Products that Carter-Hoffmann will, at its option, repair or replace, during the warranty period set forth below, any part of such products made necessary due to a defect in material or workmanship which is present when the product leaves its factory and which manifests itself during the warranty period under normal use and service.

This warranty applies only to original equipment owned and possessed by the initial purchaser and the warranty period begins on the date of original shipment from the Carter-Hoffmann factory and extends as follows: to component parts and labor for one year; to refrigeration compressor unit for one year (limited to replacement of the unit only-not to include the labor for removal, repair or replacement). Repair or replacement under this warranty will be performed, unless otherwise authorized in writing by Carter-Hoffmann, at its factory. All parts or components to be repaired or replaced under this warranty are to be shipped prepaid to Carter-Hoffmann, with reimbursement credit for such part or component to be given if found by Carter-Hoffmann to be defective.

Carter-Hoffmann neither makes nor assumes and does not authorize any other person to make or assume any obligation or liability in connection with its products other than that covered in this warranty. This warranty applies only within the continental United States and Canada. In Alaska and Hawaii, this warranty applies only to and is limited to the supply of replacement parts.

WARRANTY EXCLUSIONS AND LIMITATIONS

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS HEREBY SPECIFICALLY DISCLAIMED BY CARTER-HOFFMANN. There are no warranties, express or implied, which extend beyond the description on the face thereof.

This warranty does not cover and Carter-Hoffmann shall not under any circumstances be liable for any incidental, consequential or other damages (such as injury to persons or property, loss of time, inconvenience, loss of use, loss of business or profits, or other matters not specifically covered) arising in connection with the use of, inability to use, or failure of these products.

Note: Due to our continuous process of product improvement and innovation, all listed specifications subject to change.

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CFESA Proud Member NAFEM North American Association of Food Equipment Manufacturers